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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,190

08/11/2005

Stig Holm

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EXAMINER

SRIVASTAVA, KAILASH C

ART UNIT

PAPER NUMBER

1657

MAIL DATE

DELIVERY MODE

10/15/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,190	Applicant(s) HOLM ET AL.	
	Examiner Kailash C. Srivastava	Art Unit 1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/11&04/05/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Amendment and Response filed 02 November 2007 to Office Action mailed 09 October 2007 is acknowledged and entered.

Informal Matters

2. The Art Unit Location to the instant application (i.e., US Non-Provisional Application Number (i.e., USSN) 10/524,190 currently under prosecution at the United States Patent and Trademark Office (i.e., USPTO) has changed to Art Unit 1657. To aid in correlating any papers for the instant application (i.e., 10/524,190), all further correspondence regarding the instant application (i.e., 10/524,190) should be directed to Art Unit 1657.

3. The assigned Examiner to the instant application (i.e., 10/524,190) at the USPTO has changed. The assigned Examiner is Kailash C. Srivastava. To aid in correlating any papers for the instant application (i.e., 10/524,190), all further correspondence regarding the instant application (i.e., 10/524,190) should be directed to Examiner Kailash C. Srivastava in Art Unit 1657.

4. Examiner deeply regrets any inconvenience caused because of the delay in issuing the following Office Action to the response filed 02 November 2007.

Claims Status

5. Claim 11 has currently been amended.

6. Claims 1-14 are currently pending.

7. Please note, Claim 1 lacks the proper current status identifier because said Claim has been previously amended in Applicants' Preliminary amendment filed 02 November 2005. Thus, Claim 1 does not conform to 37 C.F.R. §1.121 and MPEP §714. The current status for every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended). Accordingly, the current status of Claim 1 in the instant application is "previously presented". In the interest of advancing the prosecution of the instant application the following action follows, however, appropriate correction to the record is in order.

Election/Restriction

8. Applicants' election with traverse of Group I invention, encompassing Claims 1-10 filed 02 November 2007 is acknowledged and entered.

The traversal is on the grounds that Applicants have amended Claim 11 through insertion at Claim 11, Line 6 the limitation, "in which the slurry is contacted with biogas producing bacteria" in the response and amendment filed 02 November 2007. Accordingly, argue Applicants, the lack of technical inventive feature between Group I and Group II inventions has been overcome and Claims 1-14 should be examined together.

Initially, the inventions separated as Groups I and II are distinct inventions lacking a common special technical feature because the invention in Group I encompassing Claims 1-10 is drawn to a method comprising specific chronological steps and components/compositions, which are absent in Group II invention encompassing Claims 11-14 drawn to a device. Thus, the distinguishing technical feature between the two inventive Groups is that one is a method and second one is a device. The method of Group I can be performed in any device, likewise any material can be added to the device of Group II invention to carry out any method/process (e.g., producing streptomycin by addition of a specific group of bacteria that produce streptomycin and carbon dioxide. In other words, the intended use, the slurry of claim 1 can be contacted with the device, does not materially change the device.

Applicants' arguments filed 02 November 2007 regarding the withdrawal of Restriction/Election requirement in Office Action mailed 09 October 2007 have been fully and carefully considered but are not persuasive for the reasons of record at pages 2-3, in the Office Action mailed 09 October 2007 and those discussed *supra*.

Accordingly, Claims 11-14 are withdrawn from further consideration as being directed to a non-elected invention. See 37 CFR §1.142(b) and MPEP §821.03.

9. Claims 1-10 are examined on merits.

Priority

10. Applicants' claim for foreign priority under 35 U.S.C. § 119(a-d) to PCT/SE03/01177 filed 07 July 2003 is acknowledged.

Information Disclosure Statement

11. Information Disclosure Statements respectively filed 11 February and 05 April 2005 are acknowledged, have been made of record, have been considered and duly initialed PTO FORMS 1449 or equivalent are enclosed with the instant Office Action.

Objection to Specification

12. The specification is objected to because Line one of first page of specification, in its present form does not properly cite the application priority data. It is requested that the first line of the first page of the specification indicate that the instant application Claims priority such as:

“This application Claims priority to PCT/SE03/01177 filed 07 July 2003.”

Claims Objection

13. Abbreviation, “TS” in Claims 1-2 and 8 renders said Claims unclear and vague. Abbreviations in the first instance of claims should be expanded upon with the abbreviation indicated in parentheses. The abbreviations can be used thereafter. Appropriate correction (e.g., total solids (TS)) is required.

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Long*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 1-10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of the Co-pending U.S. Patent Application No. 10/524,192. Although, conflicting claims are not identical, they are not patentably distinct from each other because claims 1-8 of referenced U.S. Patent Application are drawn to a method comprising the same ingredients and essentially the same steps to obtain the method of producing biogas as claimed in the recited claims of instant application. It would have been obvious to one of ordinary skill in the art to replace the grain or grain offal disclosed in the co-pending U.S. Patent Application Number 10/524,192 with the organic matter feed as recited in the instantly claimed invention because said grain is organic, green matter and is agricultural product. Furthermore, said green organic matter is dried to at least 70% solids TS before grinding (See Claim 8, USSN 10/524,192). Thus, claims of each of the inventions claimed in each of the instant application and the copending USSN 10/524,192 application are drawn to a method to produce biogas by feeding to a reactor a feedstock comprising green dried organic matter having different concentrations of dry solids TS in a slurry. Thus, the instant claims are obvious variants of the claims presented in the co-pending U.S. Patent Application Number 10/524, 192.

Claim Rejections - 35 U.S.C. § 112

Second Paragraph Rejections

16. The following is a quotation of 35 U.S.C. §112, second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

17. Claims 4-5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention because of range in range indefiniteness.

- At Claim 4, Lines 1-2, the limitation, “the organic matter is ground in such a manner that at least 80% by weight of the matter obtains a particle size of 0.5-3mm” lacks sufficient antecedent basis because Claim 4 depends from Claim 1. In claim 1 there is no limitation to grind the organic matter. Appropriate correction (e.g., insert the language, “further comprising grinding the organic material to obtain at least 80% by weight of the matter having a particle size of 0.5mm-3mm”. after the letter “1”) is required.

- At Claim 5, Lines 1-2, the limitation, "organic matter of a type other than the first-mentioned organic matter" lacks sufficient antecedent basis because Claim 5 depends from Claim 1. Claim 1 is limited to only one organic matter. Appropriate correction is required.

Claim Rejections Under 35 U.S.C. §103(a)

18. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. §103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR §1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. §103(c) and potential 35 U.S.C. §102(f) or (g) prior art under 35 U.S.C. §103(a).

20. Claims 1-10 are rejected under 35 U.S.C. §103(a) as obvious over the combined teachings from Kanai, et al (1983, U.S. Patent 4,386,159; IDS filed 02/11/2005) in view of Zhang et al. (US PGPB 20020102673), and further in view of Fischer et al (U.S. Patent 4,252,901).

Kanai et al., teach a method of anaerobically producing biogas from an organic material. Kanai et al., further teach grinding the organic material/ organic matter (see, e.g., Column 1, Line 23 and Column 4, Lines 40-41) to a particle size of < 3 mm (Abstract, Line 3), mixing the organic material with seed sludge, water, or recovered CO₂-containing Liquid/liquids (See, e.g., Column 3, Lines 27 and 37-40 Column 4, Lines 40-43), and providing a juice- like liquid (slurry). Kanai et al., additionally teach charging (feeding) said juice-like liquid into a fermentation tank (feeding) and fermenting (contacting with a biogas-producing bacteria, digesting) said liquid under a CO₂ atmosphere to produce methane (i.e., biogas) (See, e.g., Example 2, Column 5, Lines 20-26). , Kanai et al., also teach obtaining particulate matter (that is, completely solid/dry matter; Column 2, lines 28-32); adding water to the organic matter and to obtain a preferred concentration of 30-400 g organic material per liter (3-40% by weight of the liquid mixture composition) or 100-300 g/l(10-30% by weight); and adjusting the dry weight of the organic material to "about 1-10% by weight" (Column 3, lines 23-27). Kanai et al. teach a particle size of < 3 mm (e.g., see abstract) that encompasses the range of 0.5 mm to 3 mm as claimed instantly.

Kanai et al., are silent regarding an anaerobic process/ method having the combination of the instantly claimed various dry solids content ranges (e.g., 15-45%, 5-10%, 20-40% by weight) and the agricultural/ dried green organic matter as feedstock to produce biogas.

Zhang et al., teach, anaerobic digestion uses a consortium of anaerobic natural bacteria to degrade and then convert an organic substrate into biogas which is a mixture of carbon dioxide and methane (Paragraph 0003, Lines 1-3). Zhang et al., further teach, agricultural waste consists mostly of carbonaceous organic materials and it presents a particularly attractive renewable source of raw material for the generation of methane and exemplify their invention with the waste from rice production thereby demonstrating a method for agricultural and other solid waste disposal and/or utilization to produce methane (Paragraph 0010, Lines, 1-11; Paragraph 0014, Lines 1-9). Zhang et al., referring to literature data further teach, organic matter comprises agricultural and food wastes such as animal manure, green leaves and molasses; however adding chopped wheat or rice straw to dairy manure enhanced the anaerobic digestion process and increased the methane production (Paragraph 0064, Lines 1-17). Additionally, Zhang et al., teach size reduction and solids loading in the range of 10% total solids (Example 1, Paragraph 0091, Lines 7-17 and 22-25; Tables 3-5 and 9) for the biogas production. Thus, Zhang et al., teach a method to produce biogas from dried green matter, wherein said agricultural product is ground to a certain particle size and is further loaded at least at 10% solids loading to produce said biogas.

Fischer et al., further substantiate Zhang et al.'s teachings because, Fischer et al., teach a method of anaerobically producing methane from "any feed material containing suitable organic materials" (see, e.g., Column 3, Lines 3-6). Fischer et al., also teach that these feed materials and suitable starting organic materials can comprise waste from the farming and food products industries, waste from the animal husbandry and food products industries, as well as various plants, such as grasses and grains (see, e.g., Column 3, Lines 6-22).

A person of ordinary skill in the art at the time the claimed invention was made would have been motivated to combine the teachings from Kanai et al., with those of Zhang et al., and Fischer et al., to provide a slurry such as taught by Kanai et al., in a variety of dry solid content amounts as instantly claimed; because as discussed *supra*, Kanai et al., teach grinding the organic matter into particulate matter (that is, completely solid/dry matter, adding water to the organic matter and to obtain a preferred concentration of 30-400 g organic material per liter (3-40% by weight of the liquid mixture composition) or 100-300 g/l (10-30% by weight); and adjusting the dry weight of the organic

material to "about 1-10% by weight". Zhang et al., teach a method to produce biogas from dried green matter, wherein said agricultural product is ground to a certain particle size and is further loaded at least at 10% solids loading to produce said biogas and Fischer et al., substantiate Kanai et al.'s teachings because, Fischer et al., teach a method of anaerobically producing methane from "any feed material containing suitable organic materials" (see, e.g., Column 3, Lines 3-6). Fischer et al., also teach that these feed materials and suitable starting organic materials can comprise waste from the farming and food products industries, waste from the animal husbandry and food products industries, as well as various plants, such as grasses and grains. The combination of prior art cited above may be silent regarding the exact contents/ quantities of the components claimed instantly, however, result-effective adjustment of these and other types of conventional working conditions (e.g., concentrations such as solids loadings, particle size or types of green matter) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan.

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the claimed invention was made to modify the method of Kanai by including and/or substituting grain as the starting organic matter therein with one of the other organic green matters according to the beneficial teachings from Zhang et al., and Fischer et al., to obtain the instantly claimed invention; because Zhang et al., teach that a variety of organic matter may be used for methane production, including food and farming waste and because said person of ordinary skill in the art recognizing that Fischer beneficially teaches that grains, like food and farming waste, are effective starting sources of organic matter/feed recognized as useful for the same purpose - i.e., for methane-producing reactions involving slurries. The result-effective adjustment of particular conventional working conditions (e.g., determining appropriate form(s) of a grain including whole, screened, or dried offal; and/or determining particular amounts or proportions of components within such a method) is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan within the biogas production art having the cited references before him/her as a guide (See, e.g., M.P.E.P. §2144.06).

From the teachings of the reference cited *supra*, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

21. For the aforementioned reasons, no claims are allowed.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kailash C. Srivastava whose telephone number is (571) 272-0923. The examiner can normally be reached on Monday to Thursday from 7:30 A.M. to 6:00 P.M. (Eastern Standard or Daylight Savings Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached at (571)-272-0925 Monday through Thursday 7:30 A.M. to 6:00 P.M. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding may be obtained from the Patent Application Information Retrieval (i.e., PAIR) system. Status information for the published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (i.e., EBC) at: (866)-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Kailash C Srivastava/
Examiner, Art Unit 1657

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10 October 2009

/JON P WEBER/
Supervisory Patent Examiner, Art Unit 1657